John Evan Pearson

Short Bio Sketch

John E. Pearson is a staff scientist at Los Alamos National Laboratory. He obtained his Ph.D. in physics in 1988 at the University of Texas at Austin under Werner Horsthemke. In Texas he was a member of both Ilya Priogine's Center for Studies in Statistical Mechanics and of Harry Swinney's "Center for Nonlinear Dynamics". In 1990 he joined the Center for Nonlinear Studies (CNLS) at Los Alamos. At CNLS he won the Los Alamos National Laboratory post-doctoral publication prize for the best paper by a post-doctoral fellow during the preceding two years at LANL, for his article "Complex Patterns in a Simple System" http://www.sciencemag.org/content/261/5118/189.

In 1994 he joined the Applied Theoretical Physics Division (X Division) at LANL where he spent the next decade. While in X division he became interested in inverse problems through his role in the proton radiography project which was in support of the Comprehensive Test Ban Treaty. The goal of the radiography project was to probe metallic objects with high energy protons in order to ascertain whether voids had formed within the objects of interest. While in X Division he submitted a successful RO1 to NIH (with collaborators Ian Parker UC Irvine, Kevin Foskett U. Penn., Don-On Daniel Mak U. Penn, and Silvina Ponce Dawson Universidad de Buenos Aires). WIth funding to work on biological problems he left X Division and joined the Theoretical Biology and Biophysics group at LANL (T-6) in 2005. He found the jump to inverse modeling of biological systems to be quite natural and much of his work since joining T-6 has been on "data-driven modeling" of biological systems. This work is aimed generally at trying to understand the kinetics of ion channels and other single molecule systems. More specifically he has focused on the data driven modeling of the inositol-trisphosphate receptor/calcium channel. The common theme that ties his work together is the use of Occam's razor to construct minimal models based on minimal sets of assumptions.

When he is not working on science or singing a capella gunfighter songs to his 18 month old daughter he is usually found tramping around in the mountains of New Mexico. He has climbed Mt Rainier in Washington, Mt. Hood in Oregon, numerous Colorado peaks, Orizaba and Iztacchuatl Mexico, and one small 16,000' bump in China.